REMARKS

Claims 1, 5-13, 15-21 and 24-31 are pending in this application. By this Amendment, claims 1, 8, 15, 20, 24-26 and 28 are amended and claims 2-4, 14 and 22-23 are canceled without prejudice or disclaimer. Various amendments are made to the claims for clarity and are unrelated to issues of patentability.

Entry of this Amendment is proper under 37 C.F.R. §1.116 because the amendments: a) place the application in condition for allowance for the reasons set forth below; b) do not raise any new reasons that require further search and/or consideration; and c) place the application in better form for an appeal should an appeal be necessary. More specifically, the above amendments merely incorporate features from the dependent claims into the independent claims. No new issues are raised as the amended features have already been examined. Entry is therefore proper under 37 C.F.R. §1.116.

The Office Action rejects claims 1-4, 6, 8-11, 13-17, 19-23 and 26-31 under 35 U.S.C. §102(b) over U.S. Patent 5,791,014 to Shetty. The Office Action also rejects claims 5, 12 and 12 under 35 U.S.C. §103(a) over Shetty and U.S. Patent 5,802,328 to Yoshimura. Still further, the Office Action rejects claims 7, 18 and 25 under 35 U.S.C. §103(a) over Shetty and U.S. Patent 4,764,868 to Ketelhut. The rejections are respectfully traversed.

Independent claim 1 recites a connector, a multi-protocol transceiver, a CPU and a programmable logic device (PLD) coupled to sense a change in a connection state of the connector and to transfer information regarding the sensed change to the CPU. Independent claim 1 also recites an interrupt request (IRQ) signal line, an acknowledgment (ACK) signal line,

a chip select (CS) signal line, a protocol mode line, and a cable state sensing line, wherein the

IRQ signal line, the ACK signal line, and the CS signal line are coupled between the PLD and

the CPU, and the protocol mode line and the cable state sensing line are coupled between the

PLD and the connector, and wherein the IRQ signal line and the ACK signal line each separately

comprise a control line to carry information between the CPU and the PLD relating to a change

in the connection state of the connector, wherein the state is one of connection and

disconnection.

The Office Action appears to broadly assert that Shetty's CPU 140 corresponds to the

claimed CPU and Shetty's interface card 202 and system adapter integrated circuit 204 (hereafter

system adapter) corresponds to the claimed programmable logical device (PLD). However,

under this interpretation, Shetty does not teach or suggest all the features of independent claim

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More specifically, Shetty does not teach or suggest the claimed IRQ signal line, ACK

signal line, CS signal line, protocol mode line and cable sensing line as recited in independent

claim 1. Additionally, Shetty does not teach or suggest that the IRQ signal line and the ACK

signal line each separately comprise a control line to carry information between the CPU and the

PLD relating to a change in the connection state of the connector where the state is one of

connection and disconnection. In previously rejecting the claims, the Office Action appears to

broadly recite various features without specific regard to the claimed relationship of the PLD

and the CPU. In particular, Shetty discloses that the system adapter 204 converts instructions or

data from the peripherals into a format required by the CPU and controls transmission of those

signals to a system bus 146. See Shetty's col. 5, line 65-col. 6, line 6. This section clearly describes the system adapter 204 to convert signals into a format compatible over the system bus 146. This conversion does not include information related to a change in the connection state of the connector, wherein the state is one of connection and disconnection.

In addressing features relating to the IRQ signal line and the ACK signal line, the Office Action cites Shetty's system bus 146 and col. 5, lines 65-67 and col. 6, lines 1-7. However, these features do not relate to the claimed IRQ and ACK signal lines where the IRQ signal line and the ACK signal line each carrying information between the CPU and the PLD relating to a change in the connection state of the connector, wherein the state is one of connection and disconnection. That is, Shetty's system bus 146 does not include a IRQ signal line and an ACK signal line each carrying information between the CPU and the PLD relating to a change in the connection state. Additionally, the Office Action also appears to rely on Shetty's col. 17 for these features. However, these features do not relate to signal lines between a PLD and a CPU as recited in independent claim 1.

Additionally, the Office Action discusses interrupts in the paragraph bridging pages 8-9 and the paragraph bridging pages 9-10. The Office Action cites Shetty's col. 10, line 65-col. 11, line 29. However, this does not discuss the specific signal lines between a CPU and a PLD or the carrying of information between the CPU and PLD relating to change in the connection state. Rather, this section states that system adapter 204 may recognize an interrupt and query other peripherals. This communication between the system adapter 204 and the peripherals does not correspond to the claimed features. Information regarding a requested service may be

given to the system bus 146 (and to the host CPU). This also does not correspond to the claimed features such as the IRQ signal line and the ACK signal line.

For at least the reasons set forth above, Shetty does not teach or suggest all the claimed features. The other applied references do not suggest the missing features. Thus, independent claim 1 defines patentable subject matter at least for this reason.

Furthermore, independent claim 8 recites transmitting an interrupt request (IRQ) signal to the CPU when the change in the connection state of the connector is sensed, sending an acknowledgment signal from the CPU and requesting that a hardware protocol mode value be transmitted to the CPU, and transmitting a protocol connection mode value to the CPU. For at least similar reasons as set forth above, Shetty does not teach or suggest these features. The Office Action also appears to reference Shetty's col. 10, line 65-col. 11, line 29 for features relating to interrupts. See the Office Action at page 9, lines 9-12. However, the cited section does not disclose an IRQ signal transmitted to the CPU and an acknowledgment signal sent from the CPU that requests a protocol connection mode value. Rather, the interrupt signal discussed at col. 11, line 18 and col. 23 relates to an interrupt from a peripheral to the system adapter 204. Shetty does not disclose the claimed signals with regard to the CPU. The other applied references do not suggest the missing features. Thus, independent 8 defines patentable subject matter.

Furthermore, independent claim 16 recites sending an interrupt request signal to a CPU to inform the CPU of the change in the state of the connector and sending a response to the interrupt request signal from the CPU to the PLD to request the PLD to send a hardware

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protocol mode value to the CPU. For at least the reasons set forth above, Shetty does not teach or suggest these features. The other applied references do not suggest the missing features. Thus, independent claim 16 defines patentable subject matter.

Still further, independent claim 20 recites a programmable logic device (PLD) coupled to receive connection state and hardware protocol information from the connector and <u>transmit an interrupt request (IRQ) signal to the CPU</u> in accordance with the state and protocol information, and the PLD to transmit a <u>protocol mode value to the CPU</u> after receiving an acknowledgment to the IRQ from the CPU. For at least the reasons set forth above, Shetty does not teach or suggest these features. Additionally, Shetty does not disclose transmitting a protocol mode value to the CPU. The other applied references do not suggest the missing features. Thus, independent claim 20 defines patentable subject matter.

Accordingly, each of independent claims 1, 8, 16 and 20 defines patentable subject matter. Each of the dependent claims depends from one of the independent claims and therefore defines patentable subject matter at least for this reason. In addition, the dependent claims recite features that further and independently distinguish over the applied references.

CONCLUSION

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance of claims 1, 5-13, 15-21 and 24-31 are earnestly solicited. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney, **David C. Oren**, at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is

hereby made. Please charge any shortage in fees due in connection with the filing of this,

concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and

please credit any excess fees to such deposit account.

Respectfully submitted,
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